Local Environment Setup Requirements (Windows & macOS)

For: PostgreSQL DBA Training (16 Hours, 4 Days × 4 Hours)

---

1. Required Tools on Local Machine

A. PostgreSQL Client Tools (psql)

Windows

1. Download PostgreSQL installer:

   👉 https://www.postgresql.org/download/windows/

2. During installation, select:

   ✔️ **Command Line Tools (psql)**

3. Verify installation: psql --version

macOS

Install via Homebrew:

brew install libpq
brew link --force libpq

Verify:

psql --version

B. pgAdmin 4 (GUI Client)

Used for:

- Connecting to RDS

- Reading execution plans
- Managing objects
- Running SQL labs

Windows/macOS Download:

👉 https://www.pgadmin.org/download/

C. Terminal / Command-Line Tools

- **Windows:** PowerShell or Command Prompt
- **macOS:** Terminal

Used for:

- Running psql
- Testing autovacuum settings
- Executing workload scripts
- Connecting to RDS endpoint (psql)

D. Optional Productivity Tools

(Not mandatory but useful for Senior DBA workflows)

- **DBeaver** or **DataGrip** (alternative GUI SQL clients)
- **Draw.io** / **Lucidchart** (ERD diagrams)
- SQL Formatter tools (online)
- VS Code (for SQL scripts/tuning notes)

---

2. Sample Data Required for Labs

Trainer will provide:

- **Pagila PostgreSQL Sample Database**

  (Used for indexing, query tuning, joins, EXPLAIN plans)

- Synthetic tables (1–5M rows)

(Used for bloat, vacuum, autovacuum labs)

- OLTP workload generator scripts

(Used for Performance Insights + tuning labs)

- Migration source schemas

(Oracle / SQL Server sample structures)

Participants only need the ability to run/import these datasets from their local machine into **RDS PostgreSQL**.

---

3. Connectivity Requirements

Participants must ensure:

- Ability to connect to RDS over **port 5432**
- Local firewall allows outbound database connections
- IP address is shared for RDS whitelist (if required)
- For corporate machines: VPN may be required

---

4. System Requirements (Minimum)

- CPU: **2+ cores**
- RAM: **8 GB**
- Disk space: **10–20 GB free**
- Browser: Chrome / Edge / Firefox
- Admin privileges to install psql / pgAdmin

---

5. Participant Skill Prerequisites

Participants must already know:

✔ SQL (SELECT, JOIN, GROUP BY)

✔ DBA fundamentals (Oracle/SQL Server)

✔ Indexing & execution plan concepts

✔ Understanding of ACID, locking, isolation levels

Optional but helpful:

✔ Basic familiarity with PostgreSQL syntax

✔ Basic AWS Console navigation (RDS)

Final Summary (Local Environment Only)

Each participant must have:

✔ **psql client (Windows/macOS)**

✔ **pgAdmin 4**

✔ Terminal access (Powershell/Terminal)

✔ Ability to connect to RDS endpoint

✔ Required datasets (trainer-provided)

✔ Local admin rights to install tools